Kyklos

WILEY

KYKLOS

ORIGINAL ARTICLE OPEN ACCESS

Tactical Refereeing and Signaling by Publishing

Sergey V. Popov

Cardiff University, Cardiff, UK

Correspondence: Sergey V. Popov (popovs@cardiff.ac.uk)

Received: 25 November 2024 | **Revised:** 4 September 2025 | **Accepted:** 23 September 2025

Keywords: peer review | refereeing | signaling

ABSTRACT

Peer review is usually conducted to allocate limited resources, such as the budget of a funder or the pages of a journal. Limited capacity may bias peer evaluations, precisely because approving a peer's worthy project consumes capacity, jeopardizing the referee's own project's chances. I show that limiting capacity is inconsistent with a hypothesis that the decision-maker desires to stimulate efforts. I show that the desire to strengthen the signaling message of the acceptance decision could lead to limiting the capacity, endogenously creating a tragedy of informational commons problem.

JEL Classification: C7

> Three weeks after conception, the females give birth to up to 50 babies, called joeys. These 50 extremely tiny joeys scramble to attach themselves to one of the four available teats in the mother's pouch. Those that do not make it will not survive.
>
> Animal Fact Guide on Tasmanian Devils

In many environments, decision-makers seek peer advice to allocate a scarce resource. Consider publishing a paper in a journal. Referees' incentives to report their true assessments are frequently aligned with the editors' incentives: Referees, by being peers of the authors, are interested in being associated with solid work that provides meaningful impact, for both intrinsic reasons and for targeting performance indicators, such as the Research Excellence Framework in the UK. However, editors note that truly excellent papers have to be rejected for capacity reasons (i.e., David Deming); Gans and Shepherd (1994) interview Nobel Prize winners about rejections of their seminal papers; R. Preston McAfee in Szenberg and Ramrattan (2014) recounts at least three papers that deserved acceptance in *AER* during his tenure. In an example from another field, an incoming editor for a prominent medical journal rejected some papers post-acceptance to deal with a significant publication lag (see the discussion here); Park et al. (2020) find a correlation between publication lags and rejection rates in Psychology journals. The capacity, not just the quality, affects the publication outcomes.

I model the interaction of authors, referees, and the editor. I show that even if we assume away all strategic misreporting, such as nepotism and tit-for-tat strategies, *tactical* considerations remain: Being a peer reviewer while having your own manuscript submitted for consideration in a capacity-constrained journal constitutes a tragedy of the commons problem. This journal page scarcity skews the referees' incentives to report their assessment of a rival author truthfully because reporting a favorable assessment undermines their own opportunity to publish. However, unlike pastures or Tasmanian Devil's teats, journal page scarcity is anthropogenic. I show that the editor who maximizes the quality of the output will never choose a combination of capacity and quality thresholds that motivate misleading referee reports. I ask—why would the publication process then feature limited capacity and misleading referee reports? I rationalize it by recognizing the heterogeneity of authors and the use of acceptance by applicants to signal their ability. If the editor is interested in improving their journal's function as *a signaling device*, the editor can limit capacity so as to induce referees' misreporting, thus lowering the marginal benefit of effort. If low ability authors exert more effort than high-ability authors, effort suppression discourages low ability authors more, making innate ability differences relatively more important in the final output. Acceptance therefore signals innate ability better, even though the quality of the output suffers; this is the contribution of my paper to the literature on the allocation of common resources.

My findings extend to other contexts, for instance, to students grading the work of their peers in classes graded on a curve, or office workers providing feedback on the performance of their colleagues (up to 90% of Fortune 1000 companies, according to Edwards and Ewen (1996)). When capacity matters, peer evaluation must become less reliable; whether it is intentional depends on the decision-maker's motivations.

1 | Literature

Many theoretical papers deal with refereeing from the author's perspective. It is often the case that the referee is not particularly strategic—and reports their signal to the editor straightforwardly. Engers and Gans (1998) present a model where referees decide whether to agree to review: Their paper studies the effects of monetary incentives on publication delays. Ellison (2002) builds a model of authors revising their papers, but the referees take no actions. Baghestanian and Popov (2018) study the choice of effort by authors of different abilities. They find that authors of different abilities exhibit different responses to the same changes in the refereeing black box. This makes publication strategies informative about authors' abilities. However, in their paper, referees merely report their signal to the editor. Gerardi et al. (2022) model the effort choice of the politician whose idea might be embraced or denounced by a regulator of varying impartiality, with implications for the politician's efforts due to this impartiality. However, the reason for this impartiality is not discussed. Bayar and Chemmanur (2021) provide a model of an editor's choice between biased referees; again, it is not clear why referees hold a bias.

Empirical literature confirms that referees are not necessarily impartial but editors generally follow referees' recommendations. Horta and Santos (2025) conduct a survey of referees and merge it with data from Publons, a WoS-affiliated record of refereeing activity, and apply cluster analysis to deduce referees' main motivations, identifying *prolific* ($<4\%$), *selfish* (about 65%), and *diligent* (about 30%) clusters of referees. Huber et al. (2022) show that referees are kinder to Nobel Prize winners. Hale et al. (2023) report that physically attractive authors appear to collect more citations and publish better than less attractive colleagues. Hengel (2022) shows a difference in the writing quality of the published work of writers across genders; Alexander et al. (2023) show that female economists spend more time revising papers, and referees spend more time reviewing papers written by female economists. Card and DellaVigna (2020) argue that editors concur with referees' recommendations and that they value citations. Indeed, it appears that more enthusiastic reports improve a paper's chance of receiving more citations, while referees of differing publication performance provide a similar quality of refereeing. Generally, referees are beneficial for the publishing process: Hadavand et al. (2020) report that referees improve papers, at least in the first round of refereeing. Brogaard et al. (2014) find that editors in the finance field are able to attract quality papers from their colleagues, while Colussi (2018) finds a similar result in economics.

Publications appear to interact with the academic labor market: Heckman and Moktan (2020) find that publishing two top-5 papers in the economics field is significantly different from publishing one for a tenure decision in the competitive US economics departments.

In terms of refereeing reliability, Andina-Díaz et al. (2024) build on Hirshleifer (2015) theoretical argument; using data from Card and DellaVigna (2020), the authors find significant evidence of over-rejection in referees' suggestions: Referees in the middle range of reputation seem to reject more papers than referees at the top or the bottom. This career concern mechanism is complementary to the capacity mechanism described in this paper, but, unlike this paper, treats authors' decision-making as exogenous.

Outside of peer evaluations, anonymous evaluations are frequently biased. Heffernan (2022) reviews papers documenting identity biases, intentional or not, in student evaluations of teaching. Braga et al. (2014) document a positive correlation of student evaluations with grades received and a negative correlation with teachers' teaching effectiveness, which is more likely to be strategic; since students are assigned to lecturers at random, straightforward self-selection as a driver is unlikely. Social ties matter in employer evaluations: Breuer et al. (2013) find a positive bias in evaluations compared to objective measures in smaller teams. Lying is costly (Erat and Gneezy 2012; Wang et al. 2010); the benefits therefore must be outweighing the costs.

2 | The Symmetric Model

Consider a symmetric single-period global game where each active agent has, sequentially, two roles: one of an *author* and then one of a *referee*. An *editor*'s role is to assign papers written by authors to referees so that authors do not referee their own papers. I concentrate on a single-period game to assume away strategic dishonesty, such as nepotism or *tit-for-tat* strategies. These concerns can be included with the interaction studied in this paper in a more sophisticated model if desired.

In my game, a relatively small discrete number of authors, say 5, compete for an even smaller number of slots in the journal, say 2. Authors have similar ideas; they can exert effort to improve their ideas. The innate quality of each author's idea is θ; after the author exerts effort e to improve the exposition and readability of the paper, the quality of the paper becomes $q = \theta + e$. Since the effort costs of authors are the same, generically, there is one utility-maximizing outcome, so it is safe to assume that, from the author's perspective, all papers are similar.

After these papers are submitted to the journal, they are forwarded to a referee; each author thus receives another author's paper to referee. The referee's assessment of the paper is not q but $q + \varepsilon$, where ε is unpredictable by the author, and represents the *true* difference between the profession's value of the paper and the author's idea of the paper's quality. The referee compares $q+\varepsilon$ with the editor's threshold $\overline{q}$, and decides what to report: acceptance, which should be reported if the paper is *good* and $q+\varepsilon \geq \overline{q}$, or rejection, which should be reported otherwise. In a more realistic model, the quality threshold could be imposed by the publisher, by the standards of competing journals, or by the tenure standards of universities. However, since the editor has the final say on what gets published in the journal, the editor has some flexibility with both variables.

The referee can mislead the editor and report their assessment incorrectly. Empirically, misleading can manifest differently: procrastination when writing the referee report waiting for one's own paper to get accepted first; representing a refereed paper's blemishes as faults à la Hirshleifer (2015); or requiring multiple rounds of revision beyond necessary.

The editor receives all reports. If there is enough space to accommodate all the papers with an acceptance decision, the editor follows through. If not, the editor picks a subset of accepted papers at random to fill the capacity. The randomness here is for brevity: The editor could also evaluate papers by reading and then discarding acceptable papers based on their personal preference. From the perspective of the referee, this is observationally equivalent to randomization, at least in the symmetric case, where all authors, and therefore all papers, are ex ante identical. Randomization is also empirically relevant: the BA/Leverhulme grant scheme intentionally randomizes awards conditional on the quality of the proposal being above a threshold as a matter of policy (policy as of 2025, retrieved 09 June 2025); it is not clear how much the space of referees overlaps with the space of applicants.

Papers that are published yield utility to their authors. Rejected papers yield zero payoff, deemed acceptable for publication or not. All authors bear the costs of effort.

Formally, there are several authors, $N>2$. The publication process is as follows:

- the editor chooses capacity $\Gamma \in \{2,..,N\}$ and paper quality threshold $\overline{q}$;
- each author with a known innate quality θ gets an idea for a paper. Each author exerts effort e, writing a paper of quality $q=\theta+e$; the costs of effort are $c(e)$, which are, for the sake of brevity, concave and thrice differentiable. After exerting effort, authors send their papers to the editor;
- the editor sends these papers to referees for an evaluation of whether their quality is above $\overline{q}$. Referees are the same authors, but each referee receives a paper from a different author. The process is true double blind, so referees cannot learn the identity of authors and use it in quid pro quo or other strategic interactions;
- referees effortlessly evaluate the paper's true quality, $q+\varepsilon$, where ε is distributed on $\mathbb{R}$ with full support. Referees compare the paper's perceived quality with $\overline{q}$ and report to the editor a binary signal of whether the perceived quality is above the bar. They might report the truth, or they might misrepresent their findings;
- the editor obtains and follows the referees' recommendations. If the number of papers recommended for publication by referees exceeds Γ, the editor accepts at random Γ out of the number accepted by the referees, and rejects the rest;
- authors whose papers are accepted get a *reputational payoff* $W(G,B)$, which is a function of *good* and *bad* papers (with qualities above and below $\overline{q}$, respectively) published by the journal; all authors, published or not, bear the costs of their efforts.

The equilibrium in the symmetric model is a collection of the following:

- the probability that each of the referees misrepresent their signal when $q+\varepsilon>\overline{q}$, denoted by $\overline{s}_G \in [0,1]$, consistent with referees' incentives;
- the probability that each of the referees misrepresent their signal when $q+\varepsilon<\overline{q}$, denoted by $\overline{s}_B \in [0,1]$, consistent with referees' incentives;
- and e^*, the choice of effort by the authors, who maximize their expected utility:

$$\max_e E\left[W(G,B) \mid \overline{s}_G, \overline{s}_B\right] P\left[\text{pass referees} \mid \overline{s}_G, \overline{s}_B\right] P\left[\text{publish} \mid e\right] - c(e).$$

When refereeing, authors care about the publication field's reputation, which is a function of the number of good papers published and the number of bad papers published. If the journal publishes a good paper, this improves every published author's reputational payoff, while if the journal publishes a bad paper, it worsens every published author's payoff. The referee can only harvest the reputational payoff if their own paper is published:

$$u(s,\overline{s}) = \mathbf{E}\left[I(\text{publish yourself})W(G,B) \mid s, \overline{s}\right],$$

where the chance for the author to publish and the distribution of counts of good and bad papers is determined by the propensity to deliver misleading reports in the profession $\overline{s}$ and the author's own propensity to be misleading s.

All authors are equally perfectly capable of evaluating the quality of the paper they receive. The refereeing strategy is therefore $\{s_G, s_B\}$, which are the probabilities to mislead when reporting the signal to the editor if a referee sees a good (s_G) or a bad (s_B) paper.

When capacity does not matter: Assume that the editor sets $\Gamma=N$. Then the referee's decision to accept another author's paper does not affect the chances of the referee's own paper being accepted.

Since the referee's choices while refereeing do not affect the referee's outcomes regarding their own paper, the payoff can be rewritten as

$$u(s,\overline{s}) = \mathbf{E}\left[I(\text{publish}) \mid \overline{s}\right] \mathbf{E}[W(G,B) \mid s, \overline{s}].$$

What then happens to the reputational payoff? Observe that G and B are random variables of counts of good and bad papers, respectively, that are accepted by other referees. Then:

- if the referee sees a good paper, recommending that the editor publishes it can only improve the referee's payoff. Mathematically, the reputational payoff's distribution improves in the first-order stochastic dominance sense.
- if, however, the referee sees a bad paper, recommending that the editor should publish it can only worsen the referee's payoff. Again, the reputational payoff's distribution worsens in the first-order stochastic dominance sense.

Therefore, by first-order stochastic dominance, no matter what other referees do, the only optimal behavior for referees is to never mislead the editor, pick $s_B = 0$, $s_G = 0$, and then only good papers are published. This intuition immediately extends to the case where referees only receive a precise enough signal about the quality of the paper under consideration, as provided by the monotonicity of the payoff with respect to the signal under a wide family of signal distributions, with the caveat that some bad papers might be published if the referee obtains an unfortunate signal.

When capacity matters: Assume that the editor imposes a limit on the number of papers they can accept for publication. If the total number of papers deemed acceptable by the referees is above $\Gamma \geq 2$, the editor selects Γ papers at random from among those recommended for publication. This creates a downside for referees to accept good papers for publication: Even if recommending an additional paper improves the distribution of good reputational outcomes, it creates competition for capacity, which therefore jeopardizes the author's own chances of publishing by sheer chance of rejection by the editor. Therefore:

- if the referee sees a bad paper, suggesting that the editor publishes it can only worsen the referee's payoff, just like in the case where capacity does not matter, so $s_B = 0$, and therefore in equilibrium $\bar{s}_B = 0$;
- if, however, the referee sees a good paper, suggesting that the editor publish it can either increase or decrease the referee's payoff:
  - it can stochastically improve the reputational payoff: In cases when fewer than $\Gamma - 1$ papers are deemed good by other referees, the distribution of payoffs improves in the first-order stochastic dominance sense;
  - however, in cases when at least Γ papers are deemed good by the other referees, advising a seemingly good paper to be published *lowers* the chance of publishing the referee's own paper without affecting the distribution of payoffs. After all, there are at least Γ other good papers available, since bad papers do not survive the refereeing process by dominance.

Misreporting all good papers as bad ones by having $\bar{s}_G = 1$ cannot be part of a meaningful equilibrium outcome, because the other agent's behavior does not allow any papers to be published and results in either the author going against the equilibrium or in no papers being published at all, and neither of these outcomes are interesting. Can $s_G = \bar{s}_G = 0$ be an equilibrium outcome? Yes, if the cost of a decrease of an author's chance to publish due to their acceptance of a competing good paper is less than the benefit from potentially improving the reputational payoff distribution. This is possible if Γ is large enough relative to N: Then it ceases to matter. If Γ matters, we face a mixed equilibrium, where some good papers may not receive a favorable response from the referees.

Observe that the separation of editors and referees is *necessary* for the mechanism to work: If the editor could do the referees' job, capacity constraint forcing the editor to discard good enough papers would suggest the editor discard the *worst* acceptable papers, effectively tightening the quality constraint. Because the signal from referees to the editor necessarily decreases in informativeness, and because referees cannot see other papers being considered by the editor, referees do not necessarily discard the worst papers, and capacity constraint works differently from the quality constraint.

Since $s_B = \bar{s}_B = 0$, I suppress the subscript of s_G where it is unnecessary.

3 | Equilibrium in the Refereeing Subgame

3.1 | Example

Let there be $N = 5$ authors, the chance of writing a good paper for each of them be $p = 1 - F(\bar{q} - \theta - e^*)$, and the journal capacity[1] Γ be set at 2. Then, there are three possible publication outcomes: First, no papers are published; second, one good paper is published; and third, two good papers are published. In the equilibrium, $\bar{s}$ must be such that the author is indifferent between misreporting and telling the truth about the good paper that they are refereeing. The author might expect the editor to have between zero and three papers recommended for publication if their own paper is not recommended, and between one and four if their own paper is recommended.

Assume the reputational payoff from publishing G good papers and B bad papers is $W(G, B) = G - B$. Let $P_i(\bar{s})$ denote the probability that there are i good papers recommended for publication conditional on the equilibrium refereeing strategy $\bar{s}$. Since no one misrepresents bad papers, the overall payoff is

$$\underbrace{p(1-\bar{s})}_{\text{Publish}} \left(P_0(\bar{s}) \overbrace{2}^{G=2} + P_1(\bar{s}) \frac{2}{3} \overbrace{2}^{G=2} + P_2(\bar{s}) \frac{2}{4} \overbrace{2}^{G=2} + P_3(\bar{s}) \frac{2}{5} \overbrace{2}^{G=2} \right)$$

if the referee tells the truth about the good paper they face, and

$$\underbrace{p(1-\bar{s})}_{\text{Publish}} \left(P_0(\bar{s}) \underbrace{1}_{G=1} + P_1(\bar{s}) \underbrace{2}_{G=2} + P_2(\bar{s}) \frac{2}{3} \underbrace{2}_{G=2} + P_3(\bar{s}) \frac{2}{4} \underbrace{2}_{G=2} \right)$$

if the referee misleads. The difference between these two, omitting $p(1 - \bar{s})$, is

$$P_0(\bar{s}) - P_1(\bar{s}) \frac{1}{3} - P_2(\bar{s}) \frac{1}{6} - P_3(\bar{s}) \frac{1}{10},$$

which must be equal to zero if agents are indifferent between misreporting and telling the truth.

$$P_0(\bar{s}) = \overbrace{(1-p)^3}^{\text{all bad}} + \overbrace{3(1-p)^2 p\bar{s}}^{\text{one good}} + \overbrace{3(1-p)p^2\bar{s}^2}^{\text{two good}} + \overbrace{p^3\bar{s}^3}^{\text{all good}}.$$

$$P_1(\bar{s}) = \overbrace{3(1-p)^2 p(1-\bar{s})}^{\text{one good}} + \overbrace{3(1-p)p^2 \cdot 2\bar{s}(1-\bar{s})}^{\text{two good}} + \overbrace{p^3 \cdot 3(1-\bar{s})\bar{s}^2}^{\text{all good}}.$$

$$P_2(\bar{s}) = \overbrace{3(1-p)p^2(1-\bar{s})^2}^{\text{two good}} + \overbrace{p^3 \cdot 3(1-\bar{s})^2\bar{s}}^{\text{all good}}, \quad P_3(\bar{s}) = p^3(1-\bar{s})^3.$$

The indifference equation becomes a cubic equation in $\bar{s}$ with three solutions. One can notice that $p = \gamma/(1-\bar{s})$ for some γ, so that the chance to publish, $p(1-\bar{s})$, is constant with respect to p. This simplifies the indifference characterizing equation to $11\gamma^3 - 30\gamma^2 + 25\gamma - 5 = 0$, yielding a result of $\gamma = 0.2905$, making $\bar{s} = 1 - 0.2905/p$. It is an increasing function of p on [0.2905,1]. If $p = 1$, $\bar{s} = 0.7095$: When everyone except the editor knows that all five papers are good, there is still a 30% chance at best to obtain a positive referee report, and after that, the editor can discard the paper because of capacity concerns.

3.2 | General Results

The constancy of $p(1-\bar{s})$, as long as $\bar{s}$ is above zero, is a result that can be generalized for arbitrary N and Γ. This is because expected payoffs of both strategies are sums over all possible outcomes of publishing exactly Q papers, taking values from 0 to Γ, of products of probability to publish exactly Q papers, which is a function of $p(1-\bar{s})$, by the payoff from publishing exactly Q papers, which are not functions of either p or $\bar{s}$.

Denote $\widetilde{p} = p(1-\bar{s})$, and let $\xi(\pi, \Omega)$ be a random variable distributed with binomial distribution, with probability of success π and quantity of trials Ω.

Proposition 1. *Assume authors are risk-neutral: $dW/dG = a > 0$. In mixed strategy equilibria, $\widetilde{p} = p(1-\bar{s})$ solves*

$$aP\left(\xi(\widetilde{p}, N-2) \leq \Gamma - 2\right) = P\left(\xi(\widetilde{p}, N) \geq \Gamma + 1\right)\tfrac{\Gamma W(\Gamma,0)}{N(N-1)\widetilde{p}^2}. \qquad (\star)$$

Proof. From the perspective of each referee, there are three kinds of papers: the referee's own paper, the paper that they are refereeing, and the rest of the papers, the quantity of which is equal to $N-2$. There is nothing referee can do to affect the rest of the papers, as the number of other papers that are going to get a positive referee report is distributed as $\xi(\widetilde{p}, N-2)$. Since the referee only gets a payoff if their own paper is accepted, all payoffs should be evaluated conditional on the referees' own paper acceptance. The payoff in case the referee decides to reject the paper they review is

$$EU(reject) = \sum_{i=0}^{N-2} \widetilde{p}^i \left(1-\widetilde{p}\right)^{N-2-i} \frac{(N-2)!}{i!(N-2-i)!} W(\min(i+1, \Gamma), 0)$$
$$P(\text{yours picked out of } i+1) =$$
$$= \sum_{i=0}^{\Gamma-2} \widetilde{p}^i \left(1-\widetilde{p}\right)^{N-2-i} \frac{(N-2)!}{i!(N-2-i)!} W(i+1) + \sum_{i=\Gamma-1}^{N-2} \widetilde{p}^i \left(1-\widetilde{p}\right)^{N-2-i}$$
$$\frac{(N-2)!}{i!(N-2-i)!} W(\Gamma, 0) \frac{\Gamma}{i+1}.$$

On the other hand, acceptance means there is one more paper that competes for the opportunity to be published:

$$EU(accept) = \sum_{i=0}^{N-2} \widetilde{p}^i \left(1-\widetilde{p}\right)^{N-2-i} \frac{(N-2)!}{i!(N-2-i)!}$$
$$W(\min(i+2, \Gamma), 0) P(\text{yours picked out of } i+2) =$$
$$= \sum_{i=0}^{\Gamma-2} \widetilde{p}^i \left(1-\widetilde{p}\right)^{N-2-i} \frac{(N-2)!}{i!(N-2-i)!} W(i+2)$$
$$+ \sum_{i=\Gamma-1}^{N-2} \widetilde{p}^i \left(1-\widetilde{p}\right)^{N-2-i} \frac{(N-2)!}{i!(N-2-i)!} W(\Gamma, 0) \frac{\Gamma}{i+2}.$$

In the mixed strategy equilibrium, the expected payoff of acceptance must be equal to the expected payoff of rejection, so the difference must be equal to zero:

$$\underbrace{\sum_{i=0}^{\Gamma-2} \widetilde{p}^i \left(1-\widetilde{p}\right)^{N-2-i} \frac{(N-2)!}{i!(N-2-i)!}}_{P(\xi(\widetilde{p}, N-2) \leq \Gamma-2)} \underbrace{(W(i+2) - W(i+1))}_{a}$$
$$= \sum_{i=\Gamma-1}^{N-2} \widetilde{p}^i \left(1-\widetilde{p}\right)^{N-2-i} \frac{(N-2)!}{i!(N-2-i)!} \frac{\Gamma W(\Gamma, 0)}{(i+1)(i+2)}.$$

Rewrite the right-hand side sum as

$$\sum_{i=\Gamma-1}^{N-2} \widetilde{p}^i \left(1-\widetilde{p}\right)^{N-2-i} \frac{(N-2)!}{i!(N-2-i)!} \frac{\Gamma W(\Gamma, 0)}{(i+1)(i+2)}$$
$$= \frac{\Gamma W(\Gamma, 0)}{N(N-1)\widetilde{p}^2} \sum_{i=\Gamma-1}^{N-2} \widetilde{p}^{i+2} \left(1-\widetilde{p}\right)^{N-2-i} \frac{(N-2)!(N-1)N}{(i+2)!(N-2-i)!}.$$

Let $j := i+2$, then the right part transforms to

$$\frac{\Gamma W(\Gamma, 0)}{N(N-1)\widetilde{p}^2} \sum_{j=\Gamma+1}^{N} \widetilde{p}^j \left(1-\widetilde{p}\right)^{N-j} \frac{N!}{j!(N-j)!}$$
$$= \frac{\Gamma W(\Gamma, 0)}{N(N-1)\widetilde{p}^2} P\left(\xi(\widetilde{p}, N) \geq \Gamma + 1\right).$$

Combining the two sides yields the result in the proposition statement. □

Proposition 2. *Subgame equilibrium s^* exists.*

Proof. For a general increasing $W(G) := W(G, 0)$, ($\star$) looks like

$$\sum_{i=0}^{\Gamma-2} \overbrace{[W(i+2) - W(i+1)\widetilde{p}^i]}^{>0} \widetilde{p}^i \left(1-\widetilde{p}\right)^{N-2-i} \frac{(N-2)!}{i!(N-2-i)!}$$
$$= P\left(\xi(\widetilde{p}, N) \geq \Gamma + 1\right) \frac{\Gamma W(\Gamma)}{N(N-1)\widetilde{p}^2}.$$

The left-hand side is positive at $\widetilde{p} \in [0, 1)$, zero at $\widetilde{p} = 1$, and continuous in $\widetilde{p}$. The right-hand side is zero at $\widetilde{p} = 0$, positive at $\widetilde{p} \in (0, 1]$, and continuous in $\widetilde{p}$. They must intersect at least once. □

The uniqueness is harder to establish: While the left-hand side is reliably decreasing in $\widetilde{p}$, the right-hand side is generically not monotone.

Corollary 1. *If there is $\pi \in (0,1)$ chance that the referee will not consider tactical misleading and will just convey their own signal, the chance of misleading (for those who can mislead) increases.*[2]

Proof. If fraction π of referees always reply honestly, the chance of getting the paper accepted by referees is

$$\widetilde{p} = p[\pi + (1-\pi)(1-\bar{s})].$$

The equation in terms of $\widetilde{p}$ remains as (*). When π increases, $\widetilde{p}$ does not change, but (ignoring issues with probabilities being bounded in $[0,1]$) that means that $\bar{s}$ must increase. □

This may rationalize why some authors find it easier to publish in journals than others, while simultaneously being overburdened with refereeing requests ("prolific referees" according to Horta and Santos (2025)). Editors may protect some authors from random elimination at the publication decision stage to ensure that these authors do not need to distort their reports about other authors. The cost is fiercer competition for other authors.

Corollary 2. *If there is a publication incentive in an author's remuneration, $W(G) = b + aG$. Assume the subgame equilibrium is unique. Holding p fixed,*[3] *if b increases, $\widetilde{p}$ decreases, which means $\bar{s}$ increases.*

Proof. An increase in unconditional payment b leads to no change in the marginal payment increase before capacity matters, where the utility of accepting the reviewed paper is better than rejecting it. However, when capacity matters, the loss due to more competing papers (the right-hand side of (★)) includes the unconditional payment (multiplied by the difference in probability to not get published when rejecting and when accepting the paper reviewed by the referee); thus, the right-hand side of (★) increases for every $\widetilde{p}$. By monotonicity of the left-hand side of (★), $\widetilde{p}$ must decrease. □

If referees believe there is a utility in doing a good job at refereeing unconditionally on their own publication outcome, the incentives of misrepresenting are relaxed, and $\bar{s}$ decreases. As long as capacity matters, in the refereeing subgame, $\bar{s}$ will remain an increasing function of p.

A change in $\bar{s}$ must lead to a change in incentives at the effort choice level of the game. If we want to study how policy choices affect $\bar{s}$, we need to include the efforts of authors in the analysis.

4 | Authoring-Refereeing Game Equilibrium

The first stage of this game is studied extensively in Baghestanian and Popov (2018). This paper adds a refereeing subgame where authors know that the equilibrium leads to a possibility that the referee will misrepresent the paper with chance $\bar{s}^*$ and with an expected reputational payoff of

$$\omega = E_{G,B}\big[P(\text{not rejected due to capacity})W(G,B)|\,\bar{s}^*, e^*, \Gamma \;\; \text{author is accepted}\big], \qquad (\lozenge)$$

where e^* is the equilibrium level of effort.[4] Each author has ability θ, spends effort e, faces a quality threshold $\bar{q}$, and therefore solves

$$e* = \underset{e}{\operatorname{argmax}}\,\omega \times \overbrace{(1-\bar{s})}^{P[\text{pass referee}|\text{good}]} \times \underbrace{(1 - F(\bar{q} - \theta - e))}_{P[\theta+e+\varepsilon>\bar{q}]=P[\text{good}]} - c(e). \qquad (\dagger)$$

$F(\cdot)$ is the cdf of assessment noise ε; assume it has a pdf $f(\cdot)$, which is single-peaked, with a mode at 0, and positive everywhere on $\mathbb{R}$. Meanwhile, the effort cost function $c(e)$ is a strictly convex thrice differentiable cost function with $c(0) = 0, c'(0) = 0$, and $c''(\cdot) > 0$.

Maximizing this utility function yields, in a symmetric equilibrium, e^* as a function of $\bar{q}$ and $\bar{s}^*$. Denote $p^* = 1 - F(\bar{q} - \theta - e^*)$. After the authors have chosen their levels of effort, the refereeing subgame follows. Referees face a chance of seeing a good enough paper of p^* and a capacity of Γ, and the equilibrium of this subgame, according to Proposition 2, is $\bar{s}^* = \max\left(0, 1 - \widetilde{p}/p^*\right)$, where $\widetilde{p}$ is a function of Γ and N.

We therefore have a probability that the paper is good p^* as a function of the probability that the referee is going to be honest $1 - \bar{s}^*$ in the authoring stage, governed by (†), and vice versa, $1 - \bar{s}^*$ as a function of p^* in the refereeing stage, governed by (★). Manipulating Γ and $\bar{q}$ move the responses around, as depicted in Figure 1. An increase in Γ shifts the blue line in a north-easterly direction (lowering $\bar{s}$ for every p), while an increase in $\bar{q}$ is decreasing p^* (Proposition 1 of Baghestanian and Popov (2018)), shifting the green line to the left. Why would the publication economy exhibit the outcome as in Figure 1 (solid lines intersection), where $\bar{s} \neq 0$?

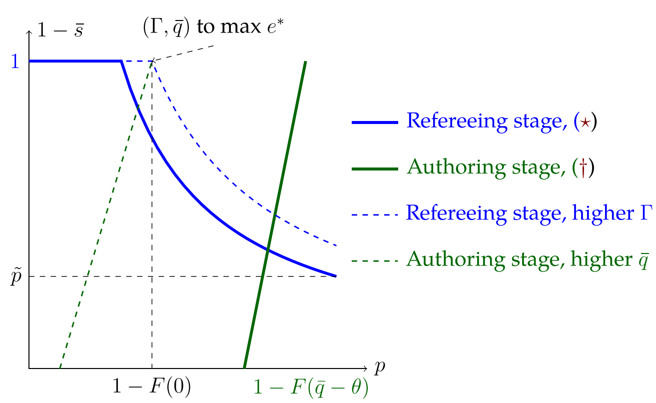

FIGURE 1 | Endogenous p and $1 - \bar{s}$ as a function of Γ and $\bar{q}$. [Colour figure can be viewed at wileyonlinelibrary.com]

Proposition 3. *Taking ω as fixed, if the editor is interested in maximizing the effort, they choose (i) Γ large enough so that $\bar{s} = 0$ and (ii) $\bar{q}$ is such that $\bar{q} - \theta - e = \arg\max_x f(x)$ (such as the intersection of dashed lines seen in Figure 1).*

Proof. For every choice of $\bar{q}$, increasing Γ lowers $\bar{s}$, which improves the effort, because the marginal benefit of effort improves. Lemma 1 of Baghestanian and Popov (2018) delivers the second part: Effort is maximized when $\bar{q} - \theta - e$ is at noise density's maximum, because the marginal benefit of effort is proportional to the density of assessment noise that is defeated by this marginal effort. □

5 | Discussion

Why then do editors choose lower capacity and lower quality thresholds than are optimal for effort stimulation? While higher thresholds decrease authors' utilities, the truthfulness of referees will make their utilities higher, even though their efforts will increase. Editors would likely appreciate additional effort from authors, higher standards, and an increase in good papers submitted for publication; unlike Tasmanian Devils, editors are not limited to the journal's capacity by nature. What motivates the equilibrium where good papers go unpublished? Why not increase the capacity, especially considering that this can go hand-in-hand with increasing the standards?

5.1 | Exclusivity

Higher capacity might lead to a lower payoff per publication ω, which the editor may be interested in maximizing instead of effort. This goes against the refereeing subgame ideology: If more good papers lead to lower reputational payoff, referees are *never* interested in approving good papers, no matter the capacity. This penalty for publishing too many papers might work via other channels, such as citing. For example, if future generations choose one paper to cite, more published papers might lead to a lower payoff of published authors. However, a larger publishing capacity will lead to *more* papers being published in the future, which increases the opportunities to be cited now. Overall, it is not clear why a higher capacity, especially combined with higher standards, would lower the publication payoff. If anything, increasing the capacity increases the quantity of good papers associated with the field, so the contrary argument applies just as well. As long as capacity constraint matters, it can be relaxed, and, if anything, this should improve the effort choice of authors, and therefore the quality of the output.

5.2 | Readership

A referee suggested that editors could be concerned that publishing too many papers will lead to readers giving up on the volume of information. If readers like papers of better quality, however, then instead of imposing a capacity constraint, an editor could tighten the quality threshold—this could render the capacity irrelevant, thus making misleading unnecessary thereby improving efforts. As Baghestanian and Popov (2018) show, a higher quality threshold stimulates high-ability authors to exert more effort, and since most of those who end up published are those, the overall quality of published papers would improve for two reasons. Therefore, readership concerns cannot explain the imposition of capacity constraints.

5.3 | Journal Competition

There is one journal in my model, but there are many competing journals in academia. Many fields have more than one top journal, with comparable quality thresholds and reputational payoffs; economics is known to feature 5 (Heckman and Moktan 2020). One can argue that imposing capacity makes the journal more attractive, but others being equal, every author would submit to the journal where their paper would have no chance of getting rejected at random. The only reason an author would expose themselves to this risk is if publishing in a journal of lower capacity has a higher reputational payoff than it does in another journal. Competition between equal-level journals, therefore, cannot be the reason behind capacity constraints.

5.4 | Signaling

As in other fields, in the field of economics, the number of published manuscripts is used for hiring, tenure, and promotional decisions. Therefore, my basic model without heterogeneity in abilities should be extended to multiple ability levels. Arguably, these abilities are difficult to observe, which is possibly why publication statistics are used by decision-makers in hiring and promotion decisions.

6 | Asymptotic Asymmetric Model

In this section, I study the limit of the behavior of the agents as the number of authors increases, so that the refereeing subgame does not depend on the ability of the removed author.[5] Mathematically, assume $N \to +\infty$ and $\Gamma_N / N \to \gamma \in (0,1)$; every author faces the same structure of referees, and therefore the same $\bar{s}$. This allows easier characterization of an asymptotic equilibrium with multiple types, and must also have implications with regard to the reputational payoff function.

Proposition 4. *Consider a symmetric subgame equilibrium problem where authors are risk-neutral: $W(G,B) = (aG - B)/N$. Let $\tilde{p}_N$ be the solution of that problem. As $N \to +\infty$, the solution becomes $\tilde{p}_N = \gamma + o\left(1/\sqrt{N}\right)$.*

Proof. In a mixed strategy equilibria, $\tilde{p}_N = p\left(1 - \bar{s}_N\right)$ solves

$$\frac{a}{N} P\left(\xi\left(\tilde{p}_N, N-2\right) \le \Gamma_N - 2\right) = P\left(\xi\left(\tilde{p}_N, N\right) \ge \Gamma + 1\right) \frac{\Gamma_N a \Gamma_N / N}{N(N-1)\tilde{p}^2}.$$

Multiply both sides by N, cancel out a, and rewrite probabilities in a way that could be used to apply the central limit theorem:

$$P\left(\sqrt{N}\frac{\overbrace{\frac{\xi(\tilde{p}_N,N-2)}{N}-\tilde{p}_N}^{\to N(0,1)}}{\sqrt{\tilde{p}_N(1-\tilde{p}_N)}}\le\sqrt{N}\frac{\overbrace{\frac{\Gamma_N-2}{N}}^{\to\gamma}-\tilde{p}_N}{\sqrt{\tilde{p}_N(1-\tilde{p}_N)}}\right)=\overbrace{\frac{\Gamma_N(\Gamma_N+1)/(N(N-1))}{\tilde{p}_N^2}}^{\to\gamma^2}\times$$

$$\times P\left(\sqrt{N}\frac{\overbrace{\frac{\xi(\tilde{p}_N,N)}{N}-\tilde{p}_N}^{\to N(0,1)}}{\sqrt{\tilde{p}_N(1-\tilde{p}_N)}}\ge\sqrt{N}\frac{\overbrace{\frac{\Gamma_N+1}{N}}^{\to\gamma}-\tilde{p}_N}{\sqrt{\tilde{p}_N(1-\tilde{p}_N)}}\right).$$

p_N is a sequence bounded in $[0,p]$, so it must have a convergent subsequence. Take a limit point of that subsequence. If it is $\gamma+c$, and $c>0$, then for that subsequence, the limit of this equation is

$$P(\xi<-\infty)=\frac{\gamma^2}{(\gamma+c)^2}P(\xi>-\infty)\Rightarrow 0=\frac{\gamma^2}{(\gamma+c)^2},$$

where, with a slight abuse of notation, $\xi\sim N(0,1)$.

A similar argument can be made that c cannot be negative. The same would hold if $\tilde{p}_N=\gamma+O(N^{1/2+\epsilon})$ for an arbitrarily small but positive ϵ. However, if $\tilde{p}_N=\gamma+\sqrt{\tilde{p}_N(1-\tilde{p}_N)}\frac{d}{\sqrt{N}}+o\left(\frac{1}{\sqrt{N}}\right)$, the limit of that sequence of equilibrium equations is

$$\Phi(d)=\frac{\gamma^2}{\gamma^2}(1-\Phi(d)),$$

which is clearly satisfied only when $d=0$. Since all limit points of that bounded sequence are the same, $\tilde{p}_N\to\gamma$. □

Corollary 3. *If $W(G,B)=b+a(G-B)/N$, $\tilde{p}_N=\gamma+O\left(\frac{1}{\sqrt{N}}\right)$, so $\tilde{p}\to\gamma$, but in a way that is consistent with Corollary 2.*

Proof. As in Proposition 4, obtain a sequence of p_N, observe that it is bounded, and rule out $\gamma+c$ as limit points. Now, let $\tilde{p}_N=\gamma-\sqrt{\tilde{p}_N(1-\tilde{p}_N)}\frac{d}{\sqrt{N}}+o\left(\frac{1}{\sqrt{N}}\right)$. Observe that the equilibrium condition converges to

$$\Phi(d)=\frac{\gamma(b/a+\gamma)}{\gamma^2}(1-\Phi(d)).$$

If b increases, the right-hand side increases, leading to an increase in d, as in Corollary 2.

An interesting consequence of the asymptotic model is that the probability of actually experiencing rejection because the editor does not have the capacity is zero; all the insufficient capacity dissipates because referees reject too many papers. This prediction, of course, can be alleviated if, for instance, referees cared about the reputational payoff even if their own paper is not accepted, in which case they would accept more good papers than there is capacity, forcing the editor to do more rejections at random.

The asymptotic model is easier to analyze in an asymmetric case because author types do not influence either the refereeing pool or the paper that one expects to referee. If we had two ability levels, a high-ability author would face relatively more referees whose own papers are less likely to be published, and vice versa. In an asymptotic model, we simply need to know the relative mass of authors of different abilities to decide on $\tilde{p}$ that would lead to the same $\bar{s}$ for different authors. I will maintain the assumption that referees of differing authorship skills are equally capable, which seems to be consistent with the findings of Hadavand et al. (2020) and Card and DellaVigna (2020). Generically, one could assume a continuous distribution of θ, as in Baghestanian and Popov (2018). I will focus on two levels of ability, $\theta_H>\theta_L$, and use $\lambda\in(0,1)$ to designate $P(\theta=\theta_H)$.

The asymmetric asymptotic model equilibrium is a collection of the following:

- the probability that each of the referees misrepresent their signal when $q+\varepsilon>\bar{q}$, denoted by $\bar{s}_G\in[0,1]$, consistent with referees' incentives;
- the probability that each of the referees misrepresent their signal when $q+\varepsilon<\bar{q}$, denoted by $\bar{s}_B\in[0,1]$, consistent with referees' incentives;
- e_H^* and e_L^*, the choice of effort by the authors, who maximize their utility:

$$\max_e E\left[W(G,B)\mid\bar{s}_G,\bar{s}_B\right]P\left[\text{pass referees}\mid\bar{s}_G,\bar{s}_B\right]P\left(\overbrace{\theta+e+\varepsilon>\bar{q}}^{\text{Paper is good}}\right)-c(e),$$

where e_H^* solves the problem of an author with ability θ_H, and e_L^* solves the problem of an author with $\theta=\theta_L$;

- p_H^* is $P(\theta_H+e_H^*+\varepsilon>\bar{q})$ and p_L^* is $P(\theta_L+e_L^*+\varepsilon>\bar{q})$;
- referees face $p=\lambda p_H^*+(1-\lambda)p_L^*$.

Corollary 4. *In the asymmetric asymptotic model, $\bar{s}$ solves*

$$\gamma=\left(\lambda p_H^*+(1-\lambda)p_L^*\right)(1-\bar{s}).$$

Proof. Identical to the approach of Proposition 4. □

If the editor wants to maximize the signaling value of the publication, they consider

$$P(\theta=\theta_H\mid\text{published})=\frac{\lambda p_H^*}{\lambda p_H^*+(1-\lambda)p_L^*}.\qquad(\lozenge)$$

A decrease in γ leads to an increase in $\bar{s}$. Take derivatives with respect to $\bar{s}$:

$$\frac{d}{d\bar{s}}P(\theta=\theta_H\mid\text{published})=\frac{\lambda(1-\lambda)\left[\frac{dp_H^*}{d\bar{s}}p_L^*-\frac{dp_L^*}{d\bar{s}}p_H^*\right]}{\left(\lambda p_H^*+(1-\lambda)p_L^*\right)^2},$$

which is positive if $\frac{dp_H^*}{d\bar{s}}p_L^*>\frac{dp_L^*}{d\bar{s}}p_H^*$. $p_H^*>p_L^*$ by Lemma 1 in Baghestanian and Popov (2018). Both $\frac{dp_L^*}{d\bar{s}}$ and $\frac{dp_H^*}{d\bar{s}}$ are negative; by the optimality condition of authors of both types, they are equal to $c'\left(e^*_H\right)/(1-\bar{s})\frac{de^*_H}{d\bar{s}} - p^*_H$ and $c'\left(e^*_L\right)/(1-\bar{s})\frac{de^*_H L}{d\bar{s}} - p^*_L$. Altogether, the positivity of the original derivative is simplified to

$$c'\left(e^*_H\right)p^*_L\frac{de^*_H}{d\bar{s}} > c'\left(e^*_L\right)p^*_H\frac{de^*_L}{d\bar{s}}.$$

Use the author's first-order condition to obtain

$$(1-\bar{s})\omega f(\bar{q}-\theta-e) = c'(e) \Rightarrow \frac{de}{d\bar{s}} = \frac{\overbrace{-\ \omega f(\bar{q}-\theta-e)}^{c'(e)/(1-s)}}{\underbrace{c''(e) + \omega f'(\bar{q}-\theta-e)(1-\bar{s})}_{>0 \text{ because it's author's SOC}}}.$$

Substituting back to the (◊) and canceling $-(1-\bar{s})$ from both sides obtains:

$$\frac{\left(c'\left(e^*_H\right)\right)^2 p^*_L}{c''\left(e_H\right) + f'\left(\bar{q}-\theta_H-e^*_H\right)(1-\bar{s})} < \frac{\left(c'\left(e^*_L\right)\right)^2 p^*_H}{c''\left(e_L\right) + f'\left(\bar{q}-\theta_L-e^*_L\right)(1-\bar{s})}.$$

To obtain the desired example where lowering the capacity and therefore increasing $\bar{s}$ would lead to a better signaling by the journal, take $c''(e) = const$, a single-peaked distribution of ε with a peak at 0, and pick $\bar{q}$, θ_H and θ_L so that $\bar{q}-\theta_H-e^*_H > 0 > \bar{q}-\theta_L-e^*_L$ while $e^*_L > e^*_H$. Clearly, this example is quite generic, as the same result obtains if $c'''(e) < 0$.

Figure 2 explains the mechanism. It depicts the effort choice problem of two types of authors. If it were impossible to exert effort to improve the quality of one's paper, the difference between the qualities of the papers would be $\theta_H - \theta_L$. For low type authors, all $\varepsilon > \bar{q} - \theta_L$ would lead to acceptance and all other to rejection; for high type authors, $\varepsilon > \bar{q} - \theta_H$ would lead to publication.

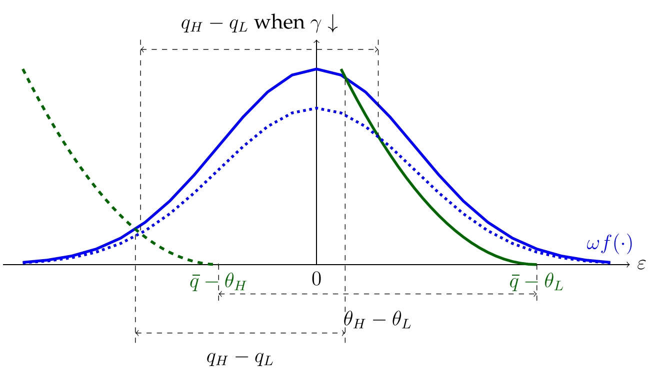

FIGURE 2 | Example: $\varepsilon \sim N(0,1)$, $c'(e) = e^2/4$. Incentives for authors before (solid blue) and after (dotted blue) a decrease in capacity; green curves represent marginal cost graphs for efforts of high (dashed green) and low (solid green) ability authors, they start at the $\bar{q} - \theta_i$ for the respective types $i \in \{H, L\}$, where effort is equal to zero, and determine the effort choice e_i of each type at the intersection with the marginal benefit of the effort curve $\omega f\left(q - \theta_i - e_i\right)$. Note that the difference in the quality of papers, $q_H - q_L$, increases as a response to a decrease in capacity; this would lead to an increase in the quality of signaling by publishing in the journal, in that the chance of a published author is of higher ability increases when efforts are discouraged. [Colour figure can be viewed at wileyonlinelibrary.com]

When authors exert effort, the sets of εs that make their papers acceptable change to $\varepsilon > \bar{q} - \theta_L - e_L$ and $\varepsilon > \bar{q} - \theta_H - e_H$. There is a space of εs, which make the paper publishable for the high type but not the low type, and its size corresponds to the likelihood that the published paper's author is actually of high type. Because it is possible to spend effort, and because the quality threshold is not too high, the gap between high type author's paper quality $\theta_H + e_H$ and $\theta_L + e_L$ is smaller than $\theta_H - \theta_L$, making it harder to distinguish them after adjusting for idiosyncratic noise ε. By imposing the capacity constraint, the editor knowingly disincentivizes effort—which hurts a low type's effort more than a high type's effort!—and widens the gap, improving the function of the journal to be a signal of published author's ability. This effect may not manifest in all possible settings, but it is clearly generic enough to be of empirical concern. The important part is that the effort of low type is higher than the effort of high type—then an identical chance of getting rejected because of the misleading referee translates into a larger decrease of effort for the low type than for the high type.

The editor might pursue multiple potentially contradicting aims, balancing as and when necessary. The editor may also be interested in pluralism, fostering competition between academic disciplines, competing with other journals, publishing authors who cite the editor, and other objectives. The key point of this paper is that it is possible to rationalize the stifling of capacity by the editor if one of these aims is to improve the value of their journal as a signaling device; other explanations, strategic or not, can complement or cancel this motivation.

7 | Conclusion

I provide a model of authors working as referees to show that, under conditions of limited capacity, even the most motivated referees might mislead an editor, simply because the editor may run out of publishing capacity. I argue that limiting capacity cannot be consistent with pure effort stimulation, because efforts are discouraged when referees gain incentives to misrepresent a paper. Furthermore, I rationalize this behavior in line with the desire to make the journal into a better signaling device. Other explanations are possible and should be analyzed and tested, with further data likely to become available for this in the future. A study of refereeing in academic publications could test the mechanism I describe here on data similar to the data of Card and DellaVigna (2020). Knowing the distance between the referee and the author, for instance, using textual analysis of their papers á la Önder et al. (2025), my mechanism would create an incentive for authors to become more exacting when refereeing the papers of their direct competitors. Due to current privacy conditions surrounding such data, however, the only way this analysis could be executed is by means of collaboration between the editorial offices of multiple journals. A similar test of the relevance of this tragedy of the commons problem can be conducted in other environments, such as peer marking by students or peer evaluation in the workplace: Closer competitors for limited resources are expected to be more demanding of each other, especially if resources become scarcer. Indeed, BA/Leverhulme's policy of randomization of funding is linked to an ongoing experimental study, which so far reports more submissions and higher diversity among applicants, but unfortunately does not yet report anything about referees' reliability.

The policy implications depend on who we think the policymaker is. Should we abandon capacity constraints? As an economics profession, we need external validation of the ability of the authors, and imposing capacity constraints might improve the signaling ability of publishing. On the other hand, we need to produce better research, and capacity constraints discourage effort. How much research is lost to capacity constraints is an empirical question, with data hard to observe and hard to study. Society as a whole would probably enjoy higher efforts and therefore better quality research for the same money, even ignoring the fact that there would be more publications without the capacity constraint. The higher costs of effort might lower the aggregate payoffs for authors. The inequality between authors of different publication outcomes is probably higher with the capacity constraint, but this would need more technical assumptions on the distributions of abilities and referees' noise.

Strategic refereeing, such as *tit-for-tat* strategies, hurting one's own competitors, signaling one's high ability to the editor by being a good referee, or helping one's own narrower field to prosper in the wider literature all deserve their own research. I intentionally omit these considerations here because I wish to emphasize that competition for limited capacity alone undermines the efficiency of the refereeing process by itself, even if the process is intrinsically costless. I leave potential career considerations, reputation concerns, network building, and other strategic opportunities for future studies.

Acknowledgements

I thank the audiences of the University of New South Wales, RMIT University, University of East Anglia, Glasgow University, Cardiff University, and Lancaster Game Theory Conference 2022 for their feedback and suggestions; as well as Ignacio Monzón, Ali Sina Önder, and Nicholas Lawson for productive discussions; the editor and the referees for their suggestions; and American University of Armenia's hospitality during working on the revision is greatly appreciated. I have no special interests to declare. The usual disclaimer applies.

Data Availability Statement

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

Endnotes

[1] A referee comments: "With … the top science journals (Nature, PNAS) publishing over 1000 articles per year, any such strategic behavior will not be observed." For general interest outlets covering multiple fields, the issue becomes "capacity per field"—while, say, a paper on publication in economics is a nice addition to a journal issue from time to time, Nature or PNAS is not going to publish 20 of those per issue no matter how well they are written and how many Nobel Prizes they will win, even having the capacity to do so. In Szenberg and Ramrattan (2014) on Page 4, Michael Watts mentions "...editorial 'saturation points' in terms of the number of articles on a particular topic or technique that a journal is likely to accept," which explains why 1000 papers in Nature is not the capacity constraint that an author of a paper in a specific field faces.

[2] A referee commented: "This kind of thinking never occurred to me, nor did it occur to two other experienced referees with whom I spoke." Unfortunately, as long as this kind of thinking occurs to enough referees, equilibrium outcomes remain the same.

[3] In a general equilibrium, efforts should increase due to better incentives to publish.

[4] The author's level of effort does not matter for ω a reputational payoff only if their paper is accepted, and the expectation is taken over the quantity of other accepted papers. The equilibrium level of effort affects the amount of competing accepted papers.

[5] See Olszewski and Siegel (2016) for more on this approach. The idea is to approximate the equilibrium of the finite N game, which—as in my case—might be hard to characterize in closed form with a solution of the asymptotic game.

References

Alexander, D., O. Gorelkina, E. Hengel, and R. S. Tol. 2023. "Gender and the Time Cost of Peer Review." Technical Report, Tinbergen Institute Discussion Paper.

Andina-Díaz, A., J. A. García-Martínez, and N. Glynia. 2024. "Rejected: Career Concerns in the Refereeing Process." Technical Report.

Baghestanian, S., and S. V. Popov. 2018. "On Publication, Refereeing, and Working Hard." *Canadian Journal of Economics* 51, no. 4: 1419–1459.

Bayar, O., and T. J. Chemmanur. 2021. "A Model of the Editorial Process in Academic Journals." *Research Policy* 50, no. 9: 104339.

Braga, M., M. Paccagnella, and M. Pellizzari. 2014. "Evaluating Students' Evaluations of Professors." *Economics of Education Review* 41: 71–88.

Breuer, K., P. Nieken, and D. Sliwka. 2013. "Social Ties and Subjective Performance Evaluations: An Empirical Investigation." *Review of Managerial Science* 7, no. 2: 141–157.

Brogaard, J., J. Engelberg, and C. A. Parsons. 2014. "Networks and Productivity: Causal Evidence From Editor Rotations." *Journal of Financial Economics* 111, no. 1: 251–270.

Card, D., and S. DellaVigna. 2020. "What Do Editors Maximize? Evidence From Four Economics Journals." *Review of Economics and Statistics* 102, no. 1: 195–217.

Colussi, T. 2018. "Social Ties in Academia: A Friend Is a Treasure." *Review of Economics and Statistics* 100, no. 1: 45–50.

Edwards, M. R., and A. J. Ewen. 1996. "How to Manage Performance and Pay With 360-Degree Feedback: Multisource Assessment Can Work for Both Performance and Pay Management When Participants Know the System Is Fair. But Doing It Right Requires a Commitment." *Compensation and Benefits Review* 28, no. 3: 41–46.

Ellison, G. 2002. "Evolving Standards for Academic Publishing: A q-R Theory." *Journal of Political Economy* 110, no. 5: 994–1034.

Engers, M., and J. S. Gans. 1998. "Why Referees Are Not Paid (Enough)." *American Economic Review* 88, no. 5: 1341–1349.

Erat, S., and U. Gneezy. 2012. "White Lies." *Management Science* 58, no. 4: 723–733.

Gans, J. S., and G. B. Shepherd. 1994. "How Are the Mighty Fallen: Rejected Classic Articles by Leading Economists." *Journal of Economic Perspectives* 8, no. 1: 165–179.

Gerardi, D., E. Grillo, and I. Monzon. 2022. "The Perils of Friendly Oversight." *Journal of Economic Theory* 204: 105500.

Hadavand, A., Hamermesh, D. S., and W. W. Wilson. 2020. "Is Scholarly Refereeing Productive (At the Margin)? Technical Report, National Bureau of Economic Research".

Hale, G., T. Regev, and Y. Rubinstein. 2023. "Do Looks Matter for an Academic Career in Economics?" *Journal of Economic Behavior & Organization* 215: 406–420.

Heckman, J. J., and S. Moktan. 2020. "Publishing and Promotion in Economics: The Tyranny of the Top Five." *Journal of Economic Literature* 58, no. 2: 419–470.

Heffernan, T. 2022. "Sexism, Racism, Prejudice, and Bias: A Literature Review and Synthesis of Research Surrounding Student Evaluations of Courses and Teaching." *Assessment & Evaluation in Higher Education* 47, no. 1: 144–154.

Hengel, E. 2022. "Publishing While Female: Are Women Held to Higher Standards? Evidence From Peer Review." *Economic Journal* 132, no. 648: 2951–2991.

Hirshleifer, D. 2015. "Cosmetic Surgery in the Academic Review Process." *Review of Financial Studies* 28, no. 3: 637–649.

Horta, H., and J. M. Santos. 2025. "A Typology of Peer-Reviewers: Role, Characteristics, and Egoistic and Altruistic Perspectives." *Research Evaluation* 34: rvaf021.

Huber, J., S. Inoua, R. Kerschbamer, C. König-Kersting, S. Palan, and V. L. Smith. 2022. "Nobel and Novice: Author Prominence Affects Peer Review." *Proceedings of the National Academy of Sciences* 119, no. 41: e2205779119.

Olszewski, W., and R. Siegel. 2016. "Large Contests." *Econometrica* 84, no. 2: 835–854.

Önder, A. S., S. V. Popov, and S. Schweitzer. 2025. "Leadership in Scholarship: Editors' Appointments and Scientific Narrative." *Scottish Journal of Political Economy* 72, no. 3: e12413.

Park, B., E. Sohn, and S. Kim. 2020. "Does the Pressure to Fill Journal Quotas Bias Evaluation?: Evidence From Publication Delays and Rejection Rates." *PLoS ONE* 15, no. 8: e0236927.

Szenberg, M., and L. Ramrattan. 2014. *Secrets of Economics Editors*. MIT Press.

Wang, J. T.-y., M. Spezio, and C. F. Camerer. 2010. "Pinocchio's Pupil: Using Eyetracking and Pupil Dilation to Understand Truth Telling and Deception in Sender-Receiver Games." *American Economic Review* 100, no. 3: 984–1007.